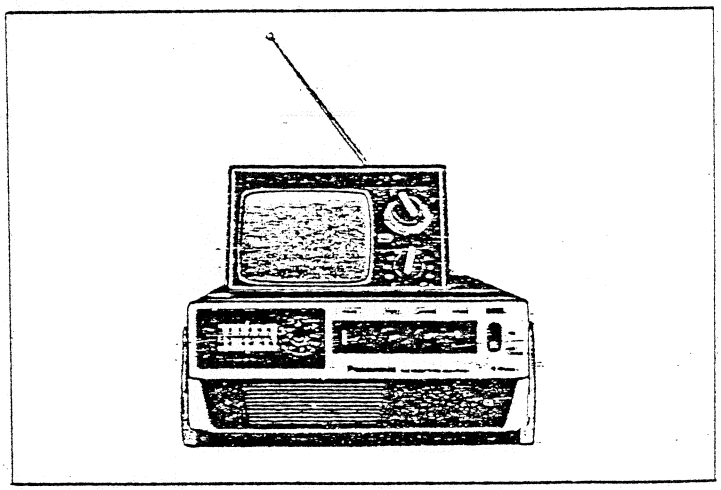
Service Manual

Black and White Television

TR-535/TR-535C

Chassis No.T506-A Main Manual



Specifications

Power Source:	AC: 120V 60Hz DC: 12V
Power Consumption:	AC: 20W DC: 6W
Antenna:	UHF/VHF Monopole antenna 75 Ohm Unbalanced type. VHF and UHF External antenna 300 Ohm Balanced type
Receiving Channels: TV	VHF 2ch-13ch USA Standard UHF 14ch-83ch USA Standard
Radio	FM 88～106 MHz AM530～1650 MHz
Intermediate Frequency:	Video: 45.75 MHz Sound: 41.25 MHz
Stages:	Video: I-F: 3 Sound: I-F: 1(IC)
Transistors:	25
Diodes:	21
High Voltage:	7.2 kV (Brightness & Contrast are MIN)
IC:	5
Picture Tube:	Type 140AKB4 13 square inches 55° Deflection.
Speaker:	3-1/2" Round type
Audio Output:	Max. 360mW
Automatic Controls:	Keyed AGC (Automatic Gain Control) Saw-Tooth AFC (Automatic Frequency Control) AVR (Automatic Voltage Regulator) ACP (Automatic Charge Protector) ADP (Automatic Discharge Protector)
Dimensions:	Height: 5-1/2 inches Weidth: 12-1/2 inches Depth: 14 inches
Weight:	15-1/5 lbs With Panalloid Batteries

Panasonic®

Matsushita Electric Corp. of America
50 Meadowland Parkway Secaucus.
New Jersey 07094
Matsushita Electric of Hawaii, Inc.
320 Waiakamilo Road, Honolulu, Hawaii 96817

Matsushita Electric of Canada Ltd.
40 Ronson Drive, Rexdale, Ont.

ORDER NO. 7505-007

CAUTION

The high voltage supply at the picture tube anode will give an unpleasant shock, but does not supply enough current to give a fatal burn or shock. However, sencodary human reaction to otherwise harmless shocks have been known to cause injury. Always discharge the picture tube anode to the receiver chassis before handling the tube.
Certain portions of the high voltage generating circuit are dangerous and extreme caution should be observed. The picture tube is highly evacuated and, if broken, glass fragments will be violently expelled.

WHEN HANDLING THE PICTURE TUBE, ALWAYS WEAR GOGGLES AND PROTECTIVE CLOTHING.

CONTROL LOCATION

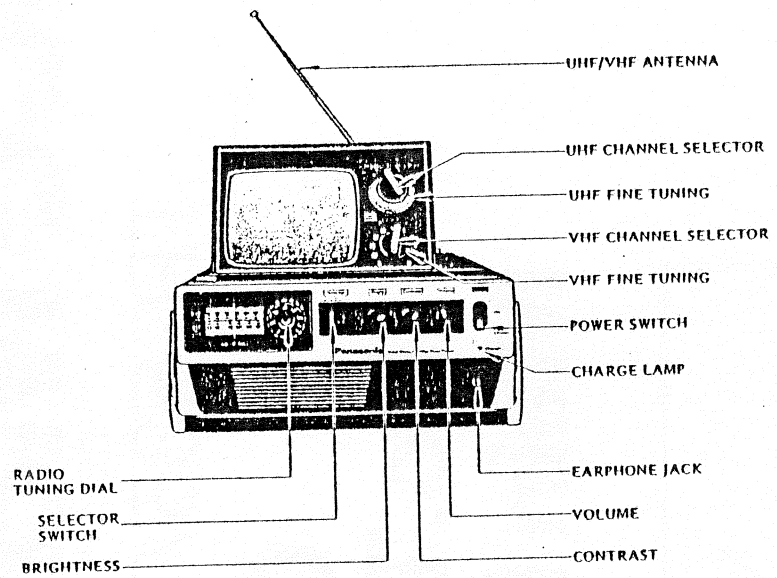


Fig. 1

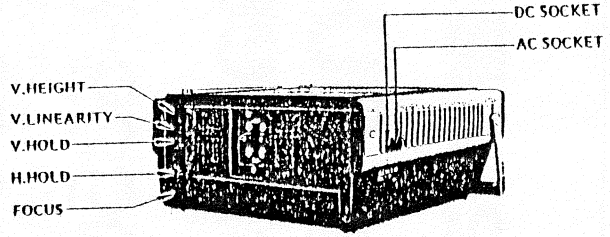


Fig. 2

ADJUSTMENTS

VERTICAL HEIGHT AND VERTICAL LINEARITY (Fig. 2)

(1) These controls (VR32 and VR33) should be adjusted at the same time to give proper vertical size consistent good vertical linearity. The adjustment should be made to extend the picture limits approximately 3/16" (5 beyond the top and bottom edges of the mask.

AGC (AUTOMATIC GAIN CONTROL)

The adjustment of the AGC control effectively changes the operating point of the AGC amplifier. Turn the control fully clockwise to set for maximum gain. In some areas this may cause clipping of the sync pulses, resulting wiggle in the picture and unstable sync. Turning the AGC control in a counterclockwise direction will decrease the of the receiver and diminish the wiggle.

TO ADJUST THE AGC PROPERLY (Fig. 3)

(1) Set the channel selector to a station transmitting a strong signal.
(2) Set the R-F AGC control VR 19 to the center position.
(3) Turn the I-F AGC control VR 18 fully counterclockwise, and the contrast and brightness controls fully clockv
(4) Adjust the I-F AGC control VR 18 to obtain a sharp and clear picture. If I-F AGC control VR 18 is turned clockwise, the input signal strength will be maximum.
(5) Observing the input signal, turn the R-F AGC control VR 19 clockwise or counterclockwise to the point where snow noise disappears in the picture.
(6) Check the reception on all channels. There should be no wiggling. Make certain the picture does not disap when the contrast control is turned to minumum.
(7) Readjust AGC control slightly, if necessary. In very strong signal areas, where slight sync clipping is still evid shorten antenna length or use a pad with an outside antenna to reduce signal input.

YOKE POSITION (Fig. 5)

The yoke is secured to the neck of the picture tube with an angular clamp and screw. To adjust the yoke and coi for picture tilt, loosen this clamp. Correct tilt and retighten the screw.

CENTERING (Fig. 5)

The picture centering device consists of two rings located at the rear of the yoke assembly. Each ring has a tab for of adjustment. The tabs should be rotated and moved towards or away from each other until the picture is prop centered on the screen of the picture tube.

FOCUS (Fig. 2)

Adjust the focus control (VR64) for the sharpest and clearest picture.

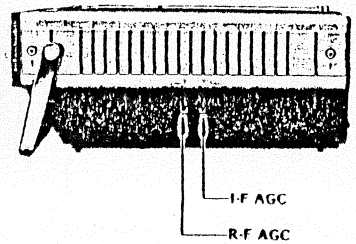


Fig. 3

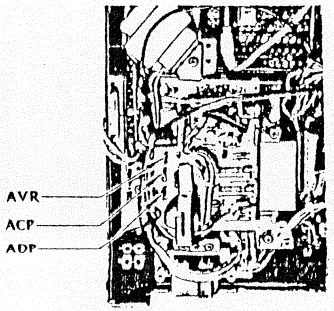


Fig. 4

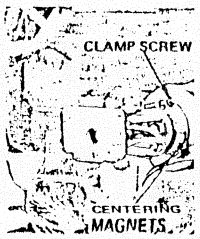


Fig. 5

DISASSEMBLY INSTRUCTIONS

Upper Cabinet Removal
1. Remove 5 mounting screws Ⓐ shown in Fig.6 and Fig.7.

POP-UP Block Removal
1. Remove the upper cabinet.
2. Remove 4 screws Ⓑ shown in Fig.8.
3. Picture Tube: Remove 4 screws Ⓒ shown in Fig.9.
4. Tuner Block: Remove 3 screws Ⓓ shown in Fig.9.

Radio Block Removal
1. Remove the upper cabinet, 3 connectors and the picture tube Barrier as shown in Fig.10.
2. Pull off the selector switch knob and the radio tuning dial.
3. Remove 2 screws Ⓔ shown in Fig.12.

Volume Block Removal
1. Remove the upper cabinet and the radio block.
2. Remove 2 screws Ⓕ shown in Fig.11.

Speaker and Power switch Removal
1. Remove the upper cabinet and the volume block.
2. Remove 2 screws Ⓖ shown in Fig.12.

Main Circuit Board Removal
1. Remove the upper cabinet.
2. Pull off the V.Hold knob and H.Hold knob.
3. Remove a screw Ⓗ shown in Fig.11.
4. Pull the main circuit board upward.

Power Circuit Board Removal
1. Remove the upper cabinet and the PUP-UP block.
2. Remove a screws Ⓗ and 4 screws Ⓘ shown in Fig.13 and Fig.11

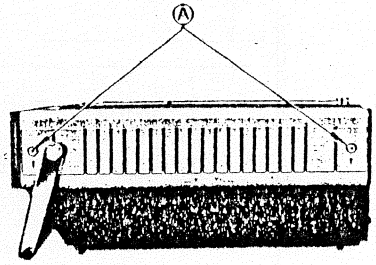


Fig. 6

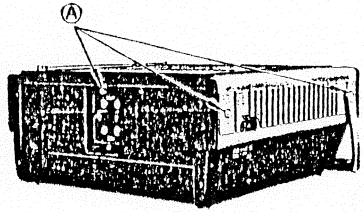


Fig. 7

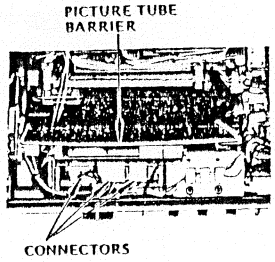


Fig. 10

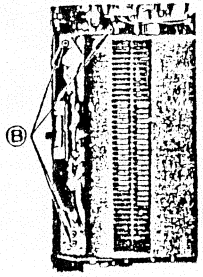


Fig. 8

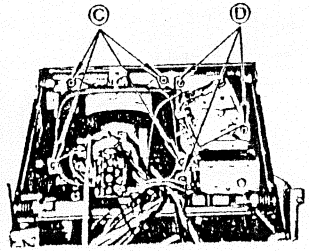
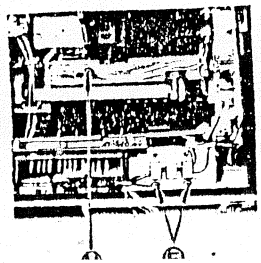
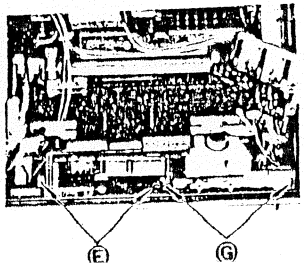


Fig. 9





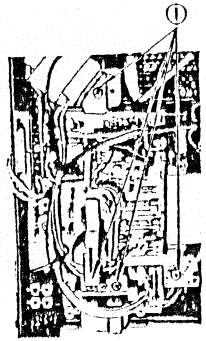


Fig. 13

VIDEO I-F ALIGNMENT

PREPARATION
1. Sweep & marker generator, oscilloscope and DC power supply . . . . . Connect and set as shown in Fig. 1
2. Connect the jamper lead between TP14 and TP15 as shown in Fig. 14

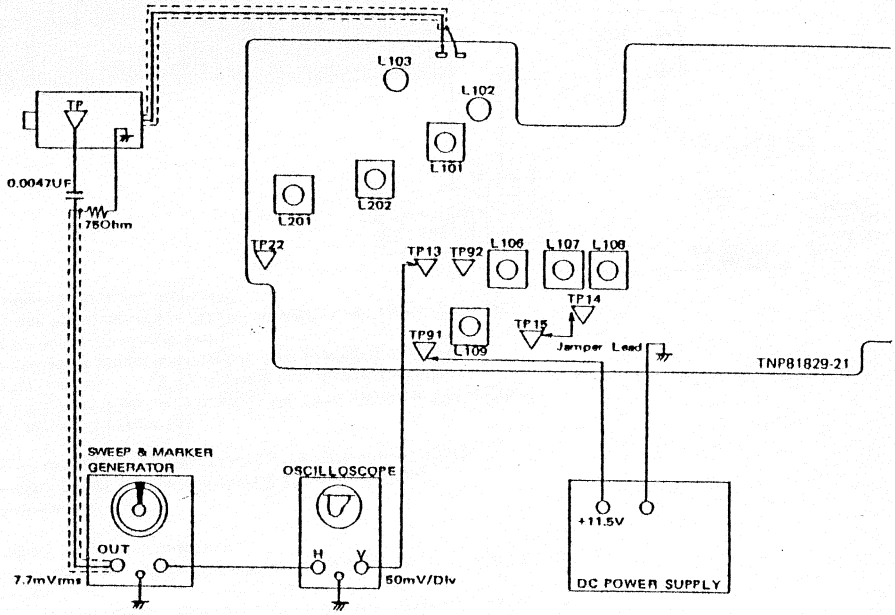


Fig.14

ALIGNMENT PROCEDURE

STEP	ALIGNMENT	WAVEFORM
1	Adjust L103 for the 41.25MHz marker position to fall shown in Fig.15.	
2	Adjust L102 for the 47.25MHz marker position to fall shown in Fig.15.	
3	Adjust both L101 and tuner convertor coil to obtain the correct responce carve shown in Fig.15.	

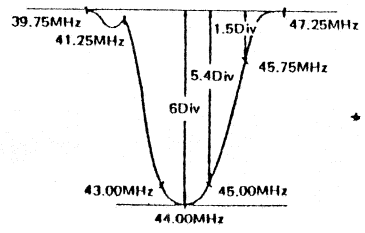


Fig.15

SOUND I-F ALIGNMENT

PREPARATION
1. Set the power switch to "ON" position.
2. Turn the volume fully counterclockwise.
3. Sweep & Marker generator and osilloscpe---connect and set shown in Fig.16.
4. Connect the jamper lead between S2 and TP23 as shown in Fig.16.

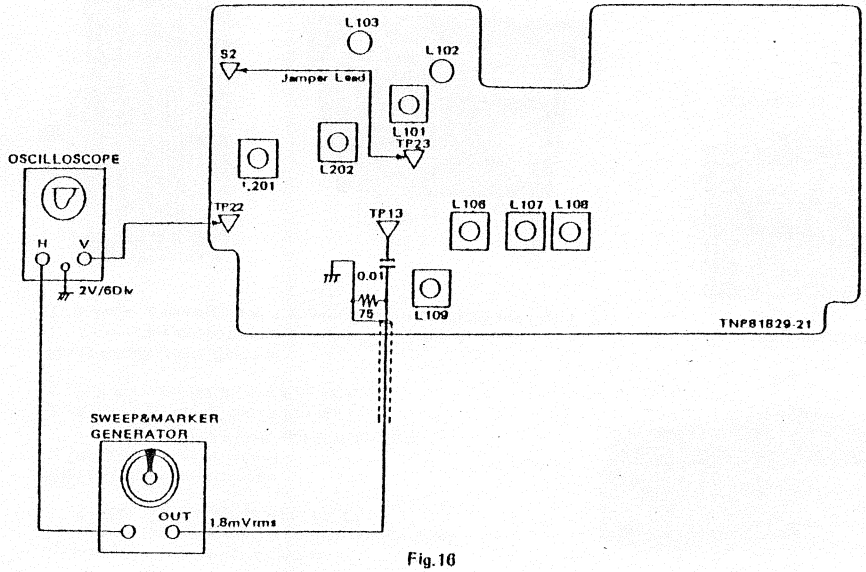


Fig.16

ALIGNMENT PROCEDURE

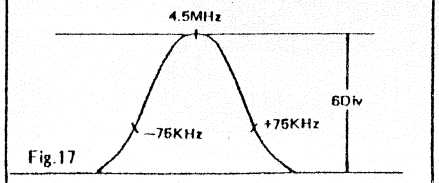
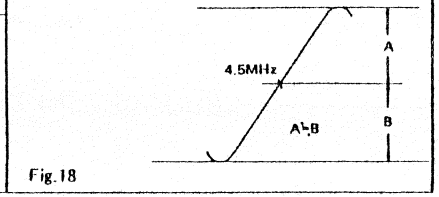
STEP	ALIGNMENT	WAVEFORM
1	Adjust L202 to get the V curve shown in Fig.17 and adjust L201 to the maximum gain at 4.5MHz shown in Fig.17.	
2	Adjust L202 until the 4.5MHz marker is the center of slanted line shown in Fig.18.	

Fig.17

Fig.18

AVR, ACP, ADP ADJUSTMENT

CONNECTIONS
Connect as shown in Fig. 19.

PREPARATION
1. Turn the VR71 fully counterclockwise.
2. Turn the VR72 and VR73 fully clockwise.

A. ACP circuit alignment procedure
1. Set the SW-1 and the SW-2 to ON position, and set the SW701 and the SW702 to OFF position.
2. Adjust the DC power supply voltage indicating V1 meter to the value which it indicates Fig.20 (Be sure to check the temperature. The voltage is changed by the temperature.)
3. Turn the VR72 colckwise and set the point where the charge lamp has started iluminating.
4. Confirm the operating voltage of ADP circuit shown in Fig.20 by rising the DC power supply voltage and droping it.

B. AVR adjustment procedure
1. Set the SW-1 to ON position and the SW-2 to OFF position.
2. Set the V1 voltage to 11.5V by adjusting the AVR control VR71.

C. ADP circuit adjustment procedure
1. Set the SW-1 to OFF and set the SW-2, SW-3 and SW702 to ON position.
2. Set the V1 voltage to 11.0V by adjusting the DC power supply.
3. Set the point where the A1 ammeter has started swinging to zero by turning the VR72 counterclockwise.
4. Confirm the operating voltage (11.0V) of ADP circuit by rising the DC power supply voltage and droping it.

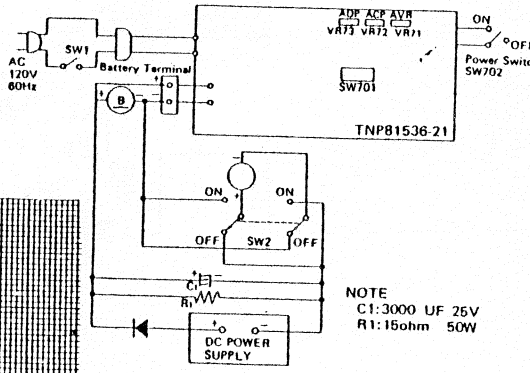


Fig. 19

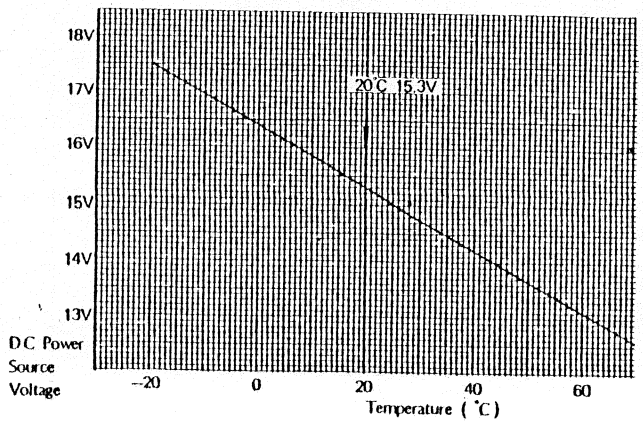


Fig. 20

NEW CIRCUIT EXPLANATION

VIDEO I-F AMPLIFIER & AGC CIRCUIT (IC11 μPC595C)

(1) The tuner output is coupled through input filter to terminal pin No.1 of IC 11.
(2) In the IC, the output from the input filter is amplified through the first amplifier stage and is then coupled to the gain control circuit, the output of which is further amplified and supplied to the succeeding stage filter.
(3) Meanwhile, control signal from the I-F AGC amplifier is coupled to the gain control circuit; this control signal controls the gain of the video amplifier to stabilize the video amplifier output, that is, detection output.
(4) The output of the I-F AGC amplifier is also coupled to the R-F AGC amplifier for comparison with a reference voltage VREF2 applied to IC terminal pin No. 13. The R-F AGC amplifier has a delayed AGC function and supplies AGC bias from terminal pin No. 12 of IC to the VHF tuner.
(5) The gate circuit operates as keyed AGC. The detection output is coupled to IC terminal pin No.6, reference voltage VREF1 to terminal pin No.10, and keying pulse signal to terminal pin No.5, these signals being related as shown in Fig.21. The output of the gate circuit is provided only during the presence of a keying pulse, and its level according to the level of the detection output, as shown in Figs. 21-A and B, the level is reduced with decreasing detection output.
(6) The gate circuit output is rectified through diode within the IC and filter connected to IC pin No.9, and the rectified output is applied to the I-F AGC amplifier. The amplified voltage output from the I-F AGC amplifier is applied to the gain control circuit for controlling the gain of the I-F amplifier.
(7) Since the I-F signal from the input filter is amplified before it is coupled to the gain control, application of AGC voltage will not result in variation of the picture quality.

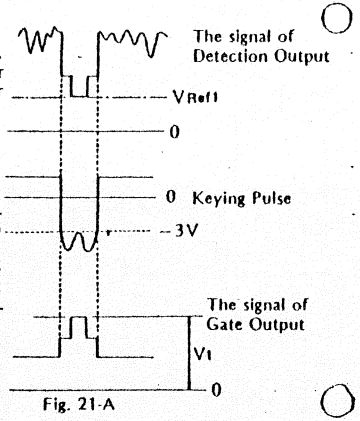


Fig. 21-A

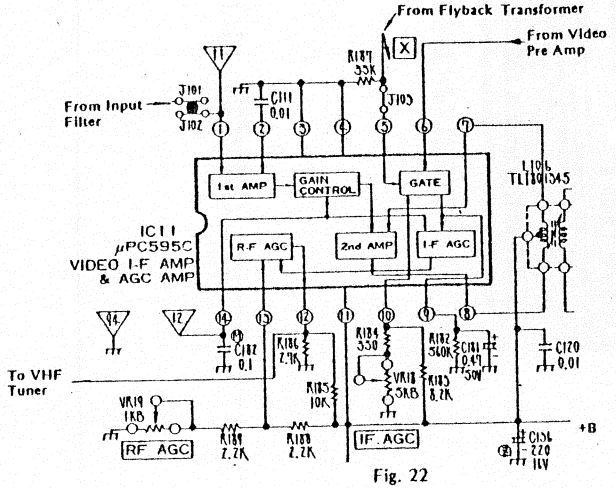


Fig. 22

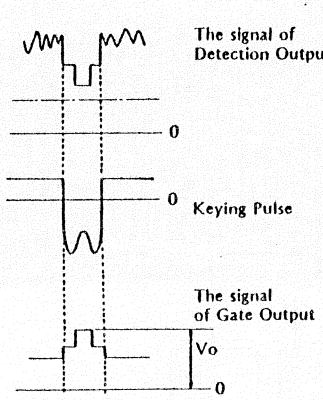


Fig. 21-B

SOUND DETECTOR & AUDIO AMPLIFIER CIRCUIT (IC 51 AN255)

(1) The sound I-F signal from C200 is coupled through the input filter consisting of L201 and C201 to terminal pins No.15 and No.16 of IC 51.
(2) The coupled signal is amplitude-limited by the limiter amplifier to a constant amplitude, and then it is fed to the FM detector and resonant circuit consisting of C205, L202 and C206.
(3) The output of the resonant circuit, phase shifted from its input, is coupled to the FM detector.
(4) In the FM detector the difference between its two inputs is taken to produce low-frequency output.
(5) The low-frequency detected signal is led to the D-C volume control circuit.
(6) Here, the detected output is reduced to the same level as the radio output through R202 and R203 (the detected output level being increased by reducing the voltage on terminal pin No.4 of IC 51).
(7) The detected output having been reduced to the same level as radio output through the D-C volume control circuit is applied to the buffer amplifier, the output of which is coupled to IC terminal pin No.11 for quality adjustment through C208 cutting off high frequency components.
(8) The resultant output is coupled to VR51 for volume control before being coupled to the audio amplifier.
(9) The audio amplifier is a negative feedback amplifier and reduces distortions. The magnitude of the negative feedback is determined by the resistances of R502 and R501; by reducing the resistance of R501 the negative feedback is reduced to increase the gain of the audio amplifier.

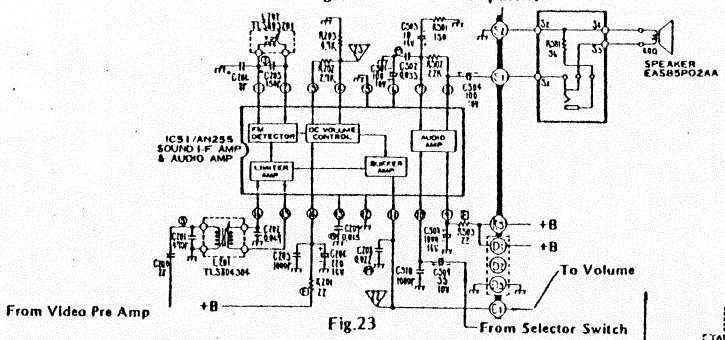


Fig.23

VIDEO DETECTOR & VIDEO AMPLIFIER CIRCUIT (IC 12 μPC 569C)

(1) The output from IC 11 is coupled through interstage filter to terminal pin No.7 of IC 12.
(2) The interstage filter has a triple tuning construction providing an improved skirt characteristic over the conventional circuit in order to cope with disturbances by signals outside the necessary band.
(3) In IC 12 the input is coupled through two separate paths. In one of these paths, it is directly amplified to provide inputs to the synchronous detector (the inputs Md1 and Md2, as shown in Figs. 25-A and C, being 180 degrees out of phase from each other).
(4) In the other path, the input is led to the carrier amplifier for limitting, and video subcarrier signals S1 and S2 (which are 180 degrees out of phase from each other as shown in Figs. 25-B and D) are derived from the resonant circuit consisting of L109 and C119 and coupled as switching signal to the synchronous detector.
(5) The inputs Md1 and Md2 are switched in synchronism to the subcarrier frequency, and only when the switching signal is positive the modulated wave is allowed to appear at the output of the detector (as shown in Fig. 25-E).
(6) The detector output thus consists of half-cycle modulated signal portions of like polarity. The half-cycle modulated wave portions are passed through the low-pass filter to demodulate the envelope of the modulated wave, i.e., modulated signal.
(7) The demodulated signal is amplified by the video pre-amplifier (of about 12 db) before being coupled to TR 15.

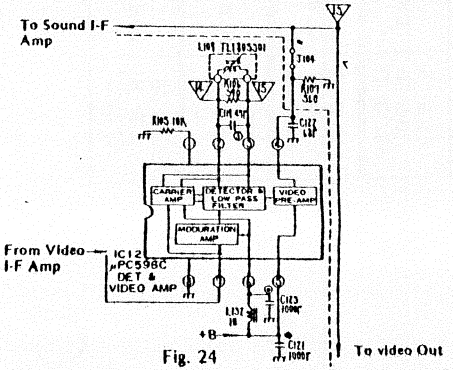


Fig. 24

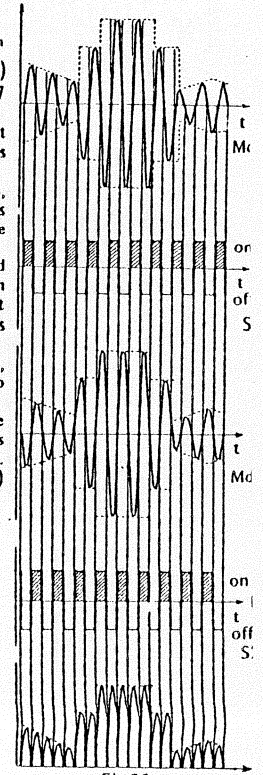
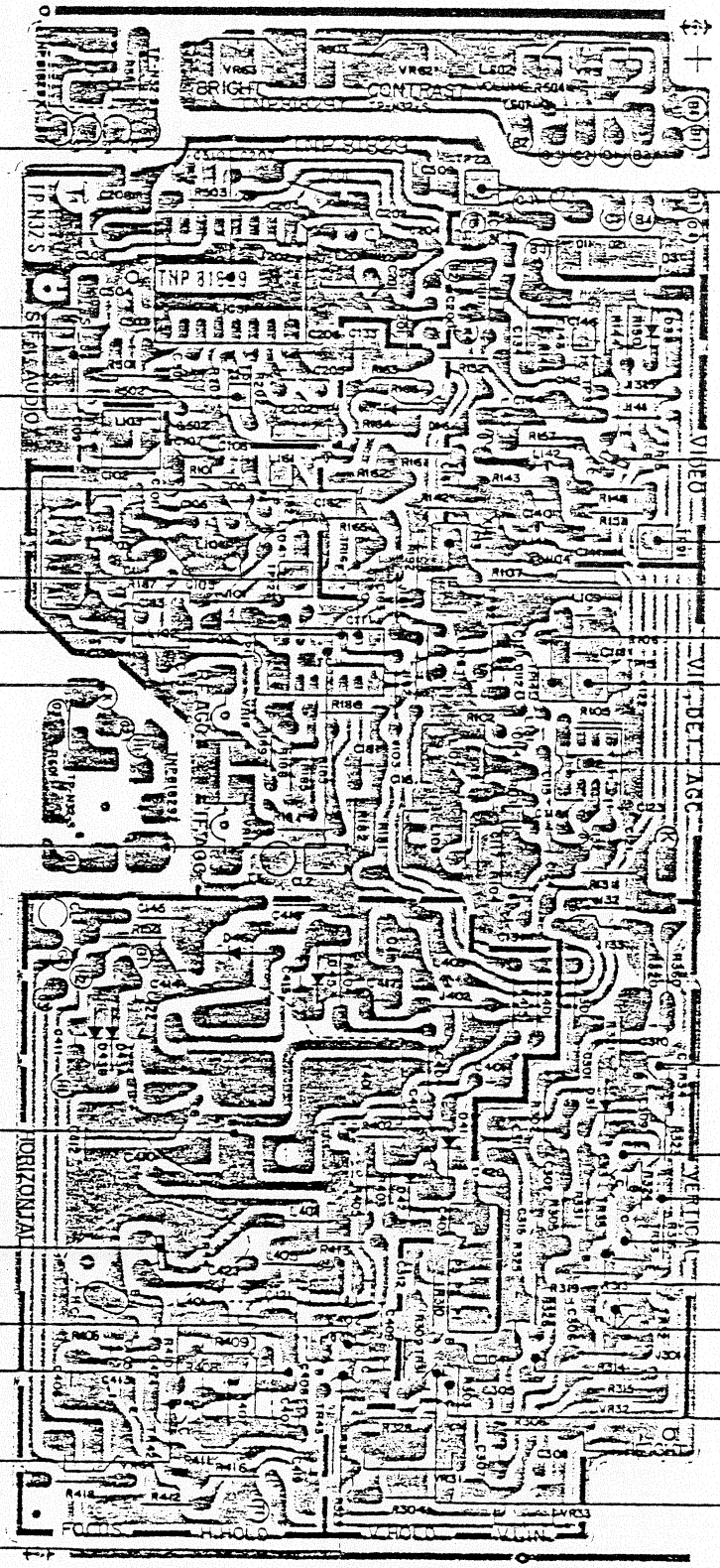


Fig.25

MAIN CIRCUIT BOARD

CONDUCTOR VIEW (TNP81829-21)



IC51	
1.	4.3V
2.	4.3V
3.	4.1V
4.	2.5V
5.	0
6.	7.8V
7.	4.6V
8.	4.8V
9.	11.38
10.	4.3V
11.	7.0V
12.	0V
13.	7.6V
14.	10.6V
15.	2.1V
16.	2.1V

TR16	
C.	2.9V
B.	10.8V
E.	11.1V

IC11	
1.	3.4V
2.	3.4V
3.	0
4.	0
5.	2.2V
6.	3.3V
7.	10.6V
8.	10.6V
9.	6.4V
10.	2.6V
11.	10.7V
12.	4.4V
13.	5.8V
14.	5.2V

TR44	
C.	11.5V
B.	0.01V
E.	0.1V

TR42	
C.	9.1V
B.	-0.5V
E.	1.0V

TR43	
C.	9.9V
B.	0.32V
E.	0

TR15	
C.	52.5V
B.	8.2V
E.	8.1V

IC12	
1.	3.8V
2.	5.1V
3.	5.1V
4.	3.4V
5.	11.0V
6.	11.0V
7.	3.1V
8.	0

TR34	
C.	12.5V
B.	6.2V
E.	5.6V

TR35	
C.	0
B.	4.8V
E.	5.5V

TR33	
C.	4.9V
B.	0.72V
E.	0.05V

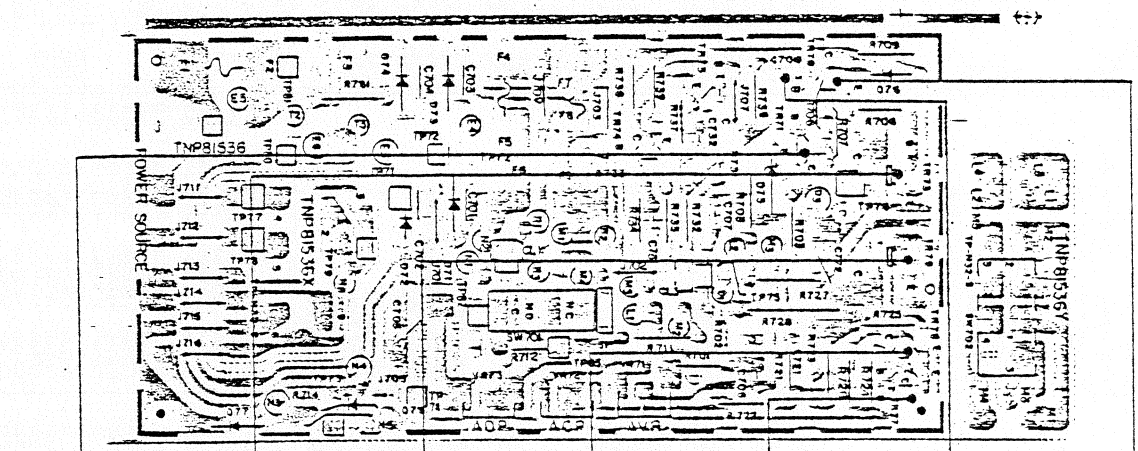
TR32	
C.	0.72V
B.	5.0V
E.	5.4V

TR31	
C.	0.57V
B.	-0.12V
E.	0.01V

NOTE. Number in red indicates waveform pattern number on schematic diagram.

CIRCUIT BOARD

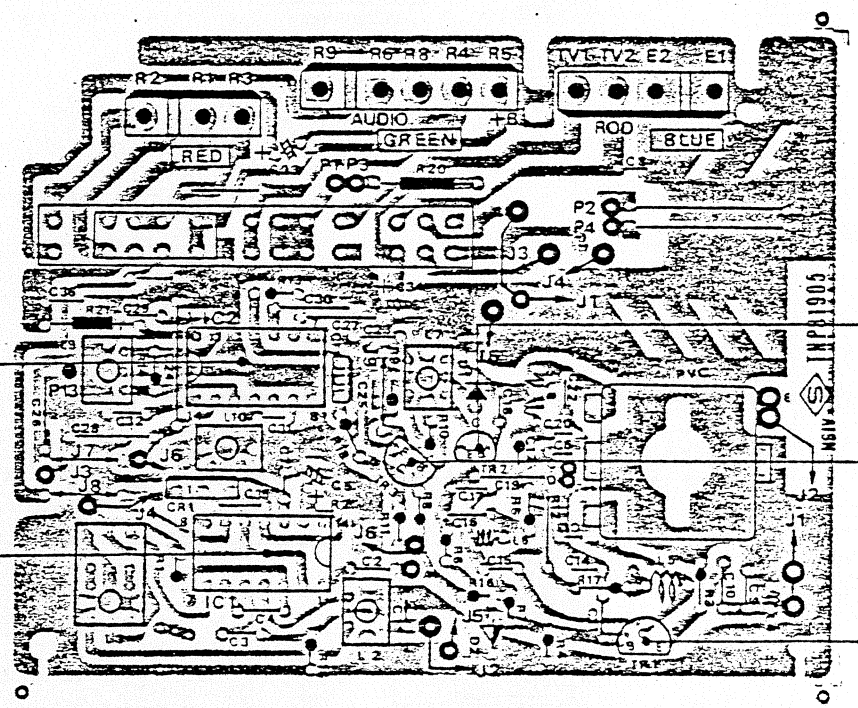
POWER SOURCE CIRCUIT BOARD
CONDUCTOR VIEW (TNP81536-21S)



TR71	TR73	TR79	TR78	TR77	TR75	TR76
C. 0V B. 0.4V E. -0.32V	C. 3.0V B. 4.5V E. 5.2V	C. 0V (11.6) B. 0.34V (5.5V) E. 0.46V (5.0V)	C. 0.34V (5.5V) B. 0.38V (11.1V) E. 0.26V ((11.5V)	C. 0.38V (11.0V) B. 0.27 (11.0V) E. 0.28 (11.5V)	C. 1.4V B. 2.0V E. 1.3V	C. 0.42V B. 1.35V E. 2.0V

NOTE. The voltage in parenthesis is measured, when the power switch is set to "off" position.

RADIO CIRCUIT BOARD
CONDUCTOR VIEW (TNQ8215)



TR2	
1. 4.1V	8. 0
2. 3.6V	9. 0.2V
3. 0	10. –
4. 1.5V	11. –
5. 1.5V	12. 3.6V
6. 1.5V	13. 8.6V
7. 0	14. 4.8V

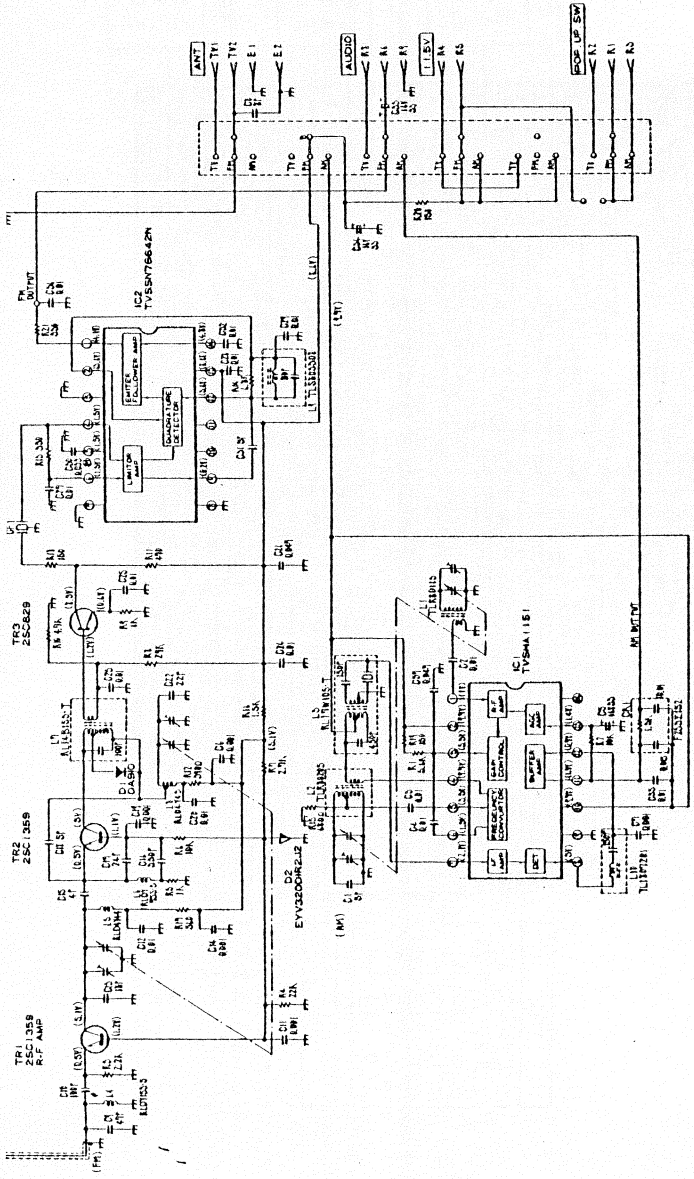
IC1	
1. 1.0V	8. 5.0V
2. 9.7V	9. 0
3. 5.5V	10. 9.7V
4. 9.7V	11. 1.9V
5. 3.5V	12. 0.7V
6. 1.3V	13. 1.4V
7. 2.1V	14. –

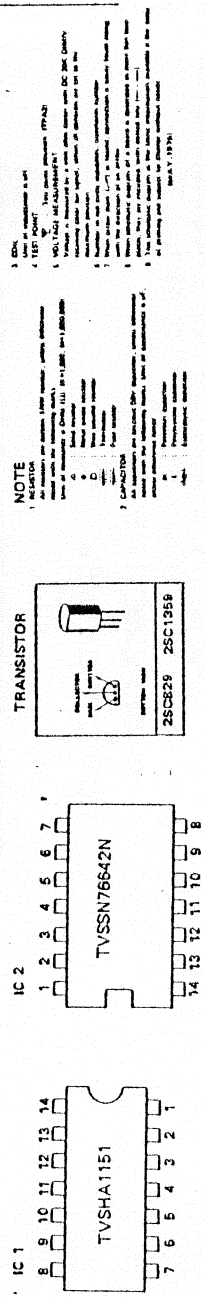
TR2
C. 5.0V B. 1.1V E. 0.5V

TR3
C. 8.3V B. 1.2V E. 0.6V

TR1
C. 5.1V B. 1.2V E. 0.5V

RADIO SCHEMATIC DIAGRAM





REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION
	TNQ8215	RADIO BOARD
	A'SSY PARTS	
R-1	TKK800372	Dial Film Complete
R-2	TSE8030S	Selector Switch
R-3	RDT9056A	Tuning Shaft
R-4	RME11D	Tuning Shaft Stopper
R-5	RDD310A	Poly Variable Capacitor Drum
R-6	RDS4060A	Thread Spring
R-7	RDR13	Guide Roller
R-8	RDR14	Guide Roller
R-9	RDR21	Guide Roller
R-10	RDY31A	Roller Stay
R-11	RNW230A	Roller Stopper
R-12	RDF7A	Dial Roller
R-13	RUS108A	Spread Spring
R-14	RDS07-4	Rope
R-15	PVC2LX20T-3M	Poly Variable Capacitor
	ICS	
IC1	TVSHA1151	AM Radio
IC2	TVSSN76642N	Limiter, FM Det.
	TRANSISTORS	
TR1	2SC1359A	RF
TR2	2SC1359A	Convertor
TR3	2SC829B	Sound I-F
	DIODES	
D1	OA90	Limiter
D2	EYV320D1R2JA	Voltage Stabilizer
	COILS & TRANSFORMERS	
L1	TLR80113	AM Antenna Coil
L2	TLR80205	AM OSC Coil
L3	RLI7W105Q-T	455KHz Combination Filter
L4	RLQY15S-5	FM Peak Coil
L5	RLD4Y44	FM R-F Coil
L6	RLQY75S-5	FM Peak Coil
L7	RLI4B153-T	FM I-F Trans.
L8	RLO4Y43	FM OSC Coil
L9	TLS803308	FM I-F Trans
L10	TLI807201	AM I-F Trans
	RESISTORS	
R1	ERD14VJ562	Carbon 5.6KOhm +5%–5% ¼W
R2	ERD14VJ103	Carbon 10KOhm +5%–5% ¼W
R3	ERD14VJ222	Carbon 2.2KOhm +5%–5% ¼W
R4	ERD14VJ223	Carbon 22KOhm +5%–5% ¼W
R5	ERD14VJ102	Carbon 1KOhm +5%–5% ¼W
R6	ERD14VJ103	Carbon 10KOhm +5%–5% ¼W
R7	ERD14VJ272	Carbon 2.7KOhm +5%–5% ¼W
R8	ERD14VJ273	Carbon 27KOhm +5%–5% ¼W
R9	ERD14VJ102	Carbon 1KOhm +5%–5% ¼W
R10	ERD14VJ472	Carbon 4.7KOhm +5%–5% ¼W
R11	ERD14VJ471	Carbon 470Ohm +5%–5% ¼W
R12	ERD14VJ391	Carbon 390Ohm +5%–5% ¼W
R13	ERD14VJ331	Carbon 330Ohm +5%–5% ¼W
R14	ERD14VJ682	Carbon 6.8KOhm +5%–5% ¼W
R15	ERD14VJ681	Carbon 680Ohm +5%–5% ¼W
R16	ERD14VJ152	Carbon 1.5KOhm +5%–5% ¼W
R17	ERD14VJ561	Carbon 560Ohm +5%–5% ¼W
R18	ERD14VJ151	Carbon 150Ohm +5%–5% ¼W
R19	ERD14TJ151	Carbon 150Ohm +5%–5% ¼W
R20	ERD14TJ151	Carbon 150Ohm +5%–5% ¼W
R21	ERD14TJ331	Carbon 330Ohm +5%–5% ¼W

REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION
	CAPACITORS	
C1	ECCD1H050CC	Ceramic 4PF +0.25PF–0.25PF 50V
C2	ECCD1H103PF	Ceramic 0.01UF +100%–0% 50V
C3	ECCD1H103PF	Ceramic 0.01UF +100%–0% 50V
C4	ECCD1H103PF	Ceramic 0.01UF +100%–0% 50V
C5	ECEA16V33L	Electrolytic 33UF 16V
C6	ECKD1H102KB	Ceramic 1000PF +10%–10% 50V
C7	ECKD1H102KB	Ceramic 1000PF +10%–10% 50V
C8	ECKD1H080KB	Ceramic 8PF +10%–10% 50V
C9	ECCD1H470KC	Ceramic 47PF +10%–10% 50V
C10	ECCD1H101K	Ceramic 100PF +10%–10% 50V
C11	ECCD1H102KB	Ceramic 1000PF +10%–10% 50V
C12	ECCD1H102KB	Ceramic 1000PF +10%–10% 50V
C13	ECCD1H181JC	Ceramic 180PF +5%–5% 50V
C14	ECCD1H102KB	Ceramic 1000PF +10%–10% 50V
C15	ECCD1H040C	Ceramic 4PF +0.25PF–0.25PF 50V
C16	ECKD2H331KB	Ceramic 330PF +10%–10% 500V
C17	ECCD1H240JC	Ceramic 24PF +5%–5% 50V
C18	ECCD1H050CC	Ceramic 5PF +0.25PF–0.25PF 50V
C19	ECCD1H102KB	Ceramic 1000PF +10%–10% 50V
C20	ECKD1H103ZF	Ceramic 0.01UF +80%–20% 50V
C22	ECCD1H240JC	Ceramic 24PF +5%–5% 50V
C23	ECCD1H103PF	Ceramic 0.01UF +100%–0% 50V
C24	ECCD1H103KB	Ceramic 0.01UF +10%–10% 50V
C25	ECCD1H103PF	Ceramic 0.01UF +100%–0% 50V
C26	ECCD1H473ZF	Ceramic 0.047UF +80%–20% 50V
C27	ECCD1H103KB	Ceramic 0.01UF +10%–10% 50V
C28	ECCD1H103KB	Ceramic 0.01UF +10%–10% 50V
C29	ECCD1H103PF	Ceramic 0.01UF +100%–0% 50V
C30	ECQM05333MZ	Polyester 0.033UF +20%–20% 50V
C31	ECCD1H150JC	Ceramic 15PF +5%–5% 50V
C32	ECCD1H103PF	Ceramic 0.01UF +100%–0% 50V
C33	ECEA16V33L	Electrolytic 33UF 16V
C34	ECEA16V33L	Electrolytic 33UF 16V
C35	ECKD1H103KB	Ceramic 0.01UF +10%–10% 50V
C36	ECCD1H103PF	Ceramic 0.01UF +10%–10% 50V
C37	ECKD1H473ZF	Ceramic 0.047UF +80%–20% 50V
	C-R COMBINATION	
CR1	EXAF253Z152	Combination Resistor
CF1	TFCA10R7A	10.7 Filter
	BRACKETS	
R-16	TKK809816	Radio Complete Mounting Bracket
R-17	TKK809827	Slide Switch Mounting Bracket
R-18	TUC80927	Shield Plate
	TNP81829-21	MAIN CIRCUIT BOARD
	IC	
IC11	TVSMPC595C	Video I-F
IC12	TVSMPC596C	Video Detector
IC51	AN255	Sound I-F
	TRANSISTORS	
TR15	2SC1566	Video Output
TR16	2SA564A	Sync. Sep.
TR31	2SC828A	Vert. Switching
TR32	2SA564A	Vert. Stability
TR33	2SC828A	Vert. Drive
TR34	2SC1317	Vert. Output
TR35	2SA719	Vert. Output

REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION
TR42	2SC828A	Horiz. Osc.
TR43	2SC1318	Horiz. Drive
TR44	2SC1025MT	Horiz. Output
	DIODES	
D31	MA26WA	Vert. Bias
D38	MA150	Vert. Blanking
D41	MA150	Horiz. AFC
D42	MA150	Horiz. AFC
D43A	TVS10D2	Damper
D43B	TVS10D2	Damper
D45	TVS51R20	Video Rectifier
D46	TVS51R80	Focus Rectifier
D47	TVM567	High Rectifier
	COILS	
L101	TLI801339	Video I-F Coil
L102	TLI803317	Self Sound Trap
L103	TLI803317	Adjustment Sound Trap
L104	TLTR75-999	Fixed Input Coil
L106	TLI801345	Coupling Coil
L107	TLI801333	Coupling Coil
L108	TLI801331	Coupling Coil
L109	TLI805301	Video Det. Coil
L131	TLT821-999	Filter Choke Coil
L132	TLT100-999	Filter Choke Coil
L142	TLT680-999	Peaking Coil
L143	TLT680-999	Peaking Coil
L201	TLS804304	Sound I-F Input Coil
L202	TLS803201	Sound Det. Coil
L401	TLH3112-4	Horiz. Hold
T401	TLF80805	Flyback Transformer
L402	TLH80404K	Horiz. Drive
L403	TLH3802C	Filter Choke Coil
L404	TLP408C	Choke Coil
L405	TLP408C	Choke Coil
L601	TLP408C	Choke Coil
	CAPACITORS	
C100	ECCD1H101K	Ceramic 100PF +10%–10% 50V
C101	ECCD1H390K	Ceramic 39PF +10%–10% 50V
C102	ECCD1H330K	Ceramic 33PF +10%–10% 50V
C103	ECCD1H030K	Ceramic 3PF +10%–10% 50V
C104	ECCD1H100D	Ceramic 10PF +0.5PF–0.5PF 50V
C105	ECCD1H330K	Ceramic 33PF +10%–10% 50V
C106	ECCD1H100D	Ceramic 10PF +0.5PF–0.5PF 50V
C107	ECCD1H050CC	Ceramic 5PF +0.25PF–0.25PF 50V
C108	ECCD1H050CC	Ceramic 5PF +0.25PF–0.25PF 50V
C111	ECKW1H103PF	Ceramic 0.01UF +100%–0% 50V
C112	ECCD1H560J	Ceramic 56PF +5%–5% 50V
C113	ECCD1H181J	Ceramic 180PF +5%–5% 50V
C114	ECCD1H100D	Ceramic 10PF +0.5PF–0.5PF 50V
C115	ECCD1H100D	Ceramic 10PF +0.5PF–0.5PF 50V
C116	ECCD1H121J	Ceramic 120PF +5%–5% 50V
C117	ECCD1H390J	Ceramic 39PF +5%–5% 50V
C118	ECKD1H102MB	Ceramic 1000PF +20%–20% 50V
C119	ECCD1H470J	Ceramic 47PF +5%–5% 50V
C120	ECKW1H103PF	Ceramic 0.01UF +100%–0% 50V
C121	ECKD1H102MB	Ceramic 1000PF +20%–20% 50V
C122	ECCD1H680K	Ceramic 68PF +10%–10% 50V
C123	ECKD1H102MB	Ceramic 1000PF +20%–20% 50V
C131	ECEA16V330L	Electrolytic 330UF 16V
C132	ECKW1H103PF	Ceramic 0.01UF +100%–0% 50V
C133	ECEA16V220L	Electrolytic 220UF 16V
C134	ECKD1H102MB	Ceramic 1000PF +20%–20% 50V
C135	ECKD1H102MB	Ceramic 1000PF +20%–20% 50V
C136	ECEA16Z220E	Electrolytic 220UF 16V
C140	ECQM05152KZ	Polyester 1500PF +10%–10% 50V

REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION
C141	ECEA16V10L	Electrolytic 10UF 16V
C142	ECEA10V220L	Electrolytic 220UF 10V
C143	ECQM05332KZ	Polyester 3300PF +10%–10% 50V
C144	ECQM05104MZ	Polyester 0.1UF +20%–20% 50V
C145	ECQM4823MZ	Polyester 0.082UF +20%–20% 40V
C146	ECCD1H181K	Ceramic 180PF +10%–10% 50V
C161	ECEA50ZR47M	Electrolytic 47UF 50V
C162	ECQM05473MZ	Polyester 0.047UF +20%–20% 50V
C163	ECCD1H181K	Ceramic 180PF +10%–10% 50V
C181	ECEA50ZR47M	Electrolytic 47UF 50V
C182	ECQM0510MZ	Polyester 0.1UF +20%–20% 50V
C183	ECEA16V10L	Electrolytic 10UF 16V
C200	ECCD1H020CC	Ceramic 2PF +0.25PF–0.25PF 50V
C201	ECQS1471K	Styrol 470PF +10%–10% 100V
C202	ECKD1H473Z	Ceramic 0.047UF +80%–20% 50V
C203	ECKD1H102MB	Ceramic 1000PF +20%–20% 50V
C204	ECEA16V220L	Electrolytic 220UF 16V
C205	ECCD1H151J	Ceramic 150PF +5%–5% 50V
C206	ECCD1H080CC	Ceramic 8PF +0.25PF–0.25PF 50V
C207	ECQM05153MZ	Polyester 0.015UF +20%–20% 50V
C208	ECQM05223MZ	Polyester 0.015UF +20%–20% 50V
C301	ECQM05223MZ	Polyester 0.022UF +20%–20% 50V
C302	ECQM05223MZ	Polyester 0.022UF +20%–20% 50V
C304	ECQM05104KZ	Polyester 0.1UF +10%–10% 50V
C305	ECSZ10EF10N	Electrolytic 10UF 10V
C307	ECEA16V33L	Electrolytic 33UF 16V
C308	ECSZ10EF10N	Electrolytic 10UF 10V
C309	ECQM05473MZ	Polyester 0.047UF +20%–20% 50V
C310	ECEA10V47LE	Electrolytic 47UF 10V
C311	ECEA16V470L	Electrolytic 470UF 16V
C312	ECQM05683MZ	Polyester 0.068UF +20%–20% 50V
C313	ECQM05103MZ	Polyester 0.01UF +20%–20% 50V
C315	ECQM05104MZ	Polyester 0.1UF +20%–20% 50V
C401	ECQM05473MZ	Polyester 0.047UF +20%–20% 50V
C403	ECQM05223MZ	Polyester 0.022UF +20%–20% 50V
C404	ECQM05224MZ	Polyester 0.022UF +20%–20% 50V
C405	ECEA25V4R7L	Electrolytic 4.7UF 25V
C406	ECQM05104MZ	Polyester 0.1UF +20%–20% 50V
C407	ECQM05333JZ	Polyester 0.033UF +5%–5% 50V
C408	ECQM05682KZ	Polyester 6800PF +10%–10% 50V
C409	ECQM05153MZ	Polyester 0.015UF +20%–20% 50V
C410	ECKD2H222MD	Ceramic 2200PF +20%–20% 500V
C411	ECKD2H102MB	Ceramic 1000PF +20%–20% 500V
C412	ECQM4333KZ	Polyester 0.033UF +10%–10% 40V
C413	ECEA16V47L	Electrolytic 47UF 16V
C415	ECKD2H391KB	Ceramic 390PF +10%–10% 500V
C416	ECQE10223MZ	Polyester 0.022UF +20%–20% 10V
C417	ECEA160V10	Electrolytic 10UF 160V
C418	ECEA16Z470	Electrolytic 470UF 16V
C419	ECKD1H102MB	Ceramic 1000PF +20%–20% 50V
C422	ECKD2H222MD	Ceramic 2200PF +20%–20% 500V
C501	ECEA10V100L	Electrolytic 100UF 10V
C502	ECQM05333MZ	Polyester 0.033UF +20%–20% 50V
C503	ECEA16V10L	Electrolytic 10UF 16V
C504	ECEA10V100L	Electrolytic 100UF 10V
C508	ECEA16V1000E	Electrolytic 1000UF 16V
C509	ECEA10V33L	Electrolytic 33UF 10V
C510	ECKD1H102MB	Ceramic 1000PF 50V
	RESISTORS	
R101	ERD14TJ220	Carbon 22Ohm +5%–5% ¼W
R102	ERD14TJ272	Carbon 2.7KOhm +5%–5% ¼W
R104	ERD14TJ821	Carbon 820Ohm +5%–5% ¼W
R105	ERD14TJ103	Carbon 10KOhm +5%–5% ¼W
R106	ERD14TJ391	Carbon 390Ohm +5%–5% ¼W
R107	ERD14TJ561	Carbon 560Ohm +5%–5% ¼W

REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION
R131	ERD14FJ100	Carbon 10Ohm +5%–5% ¼W
R132	ERD14FJ220	Carbon 22Ohm +5%–5% ¼W
R142	ERD14TJ680	Carbon 68Ohm +5%–5% ¼W
R143	ERD14TJ391	Carbon 390Ohm +5%–5% ¼W
R144	ERD14TJ122	Carbon 1.2KOhm +5%–5% ¼W
R145	ERD14TJ820	Carbon 82Ohm +5%–5% ¼W
R147	ERD14TJ564	Carbon 560KOhm +5%–5% ¼W
R148	ERD14TJ332	Carbon 3.3KOhm +5%–5% ¼W
R150	ERD14TJ682	Carbon 6.8KOhm +5%–5% ¼W
R151	ERD14TJ473	Carbon 47KOhm +5%–5% ¼W
R152	ERC12GK335	Solid 3.3MOhm +10%–10% ½W
R157	ERD14TJ682	Carbon 6.8KOhm +5%–5% ¼W
R161	ERD14TJ390	Carbon 39Ohm +5%–5% ¼W
R162	ERD14TJ122	Carbon 1.2KOhm +5%–5% ¼W
R163	ERD14TJ273	Carbon 27KOhm +5%–5% ¼W
R164	ERD14TJ274	Carbon 270KOhm +5%–5% ¼W
R165	ERD14TJ272	Carbon 2.7KOhm +5%–5% ¼W
R181	ERD14TJ333	Carbon 33KOhm +5%–5% ¼W
R182	ERD14TJ564	Carbon 560KOhm +5%–5% ¼W
R183	ERD14TJ822	Carbon 8.2KOhm +5%–5% ¼W
R184	ERD14TJ331	Carbon 330Ohm +5%–5% ¼W
R185	ERD14TJ103	Carbon 10KOhm +5%–5% ¼W
R186	ERD14TJ272	Carbon 2.7KOhm +5%–5% ¼W
R187	ERD14TJ331	Carbon 330Ohm +5%–5% ¼W
R188	ERD14TJ222	Carbon 2.2KOhm +5%–5% ¼W
R189	ERD14TJ222	Carbon 2.2KOhm +5%–5% ¼W
R192	ERD14TJ472	Carbon 4.7KOhm +5%–5% ¼W
R201	ERD14FJ220	Carbon 22Ohm +5%–5% ¼W
R202	ERD14FJ272	Carbon 2.7KOhm +5%–5% ¼W
R203	ERD14FJ472	Carbon 4.7KOhm +5%–5% ¼W
R301	ERD14TJ472	Carbon 4.7KOhm +5%–5% ¼W
R302	ERD14TJ272	Carbon 2.2KOhm +5%–5% ¼W
R303	ERD14TJ183	Carbon 18KOhm +5%–5% ¼W
R304	ERD14TJ823	Carbon 82KOhm +5%–5% ¼W
R305	ERD14TJ472	Carbon 4.7KOhm +5%–5% ¼W
R306	ERD14TJ682	Carbon 6.8KOhm +5%–5% ¼W
R309	ERD14TJ6R8	Carbon 6.8Ohm +5%–5% ¼W
R310	ERD14TJ3R3	Carbon 3.3Ohm +5%–5% ¼W
R313	ERD14TJ682	Carbon 6.8KOhm +5%–5% ¼W
R314	ERD14TJ562	Carbon 5.6KOhm +5%–5% ¼W
R315	ERD14TJ820	Carbon 82Ohm +5%–5% ¼W
R316	ERD14TJ152	Carbon 1.5KOhm +5%–5% ¼W
R317	ERD14TJ333	Carbon 33KOhm +5%–5% ¼W
R319	ERD14TJ100	Carbon 10Ohm +5%–5% ¼W
R320	ERD14TJ821	Carbon 820Ohm +5%–5% ¼W
R321	ERD14TJ471	Carbon 470Ohm +5%–5% ¼W
R323	ERD14FJ2R2	Carbon 2.2Ohm +5%–5% ¼W
R324	ERD14FJ2R2	Carbon 2.2Ohm +5%–5% ¼W
R325	ERD14TJ821	Carbon 820Ohm +5%–5% ¼W
R326	ERD14TJ152	Carbon 1.5KOhm +5%–5% ¼W
R328	ERD14TJ822	Carbon 8.2KOhm +5%–5% ¼W
R329	ERTD3ZHL402S	Thermistor 4KOhm 3W
R331	ERD14TJ220	Carbon 22Ohm +5%–5% ¼W
R360	ERD14TJ470	Carbon 47Ohm +5%–5% ¼W
R401	ERD14TJ47	Carbon 470Ohm +5%–5% ¼W
R402	ERD14TJ183	Carbon 18KOhm +5%–5% ¼W
R403	ERD14TJ682	Carbon 6.8KOhm +5%–5% ¼W
R404	ERC12GK392	Solid 3.9KOhm +10%–10% ½W
R405	ERD14TJ472	Carbon 4.7KOhm +5%–5% ¼W
R406	ERD14TJ561	Carbon 560Ohm +5%–5% ¼W
R407	ERD14TJ223	Carbon 22KOhm +5%–5% ¼W
R408	ERD14TJ122	Carbon 1.2KOhm +5%–5% ¼W
R409	ERD14TJ682	Carbon 6.8KOhm +5%–5% ¼W
R410	ERD14TJ181	Carbon 180Ohm +5%–5% ¼W
R411	ERD14TJ220	Carbon 22Ohm +5%–5% ¼W
R412	ERD14TJ471	Carbon 470Ohm +5%–5% ¼W

REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION
R413	ERD12FJ270	Carbon 27Ohm +5%–5% ½W
R415	ERD14TJ223	Carbon 22KOhm +5%–5% ¼W
R416	ERD14TJ101	Carbon 100Ohm +5%–5% ¼W
R418	ERD14TJ474	Carbon 470KOhm +5%–5% ¼W
R501	ERD14TJ151	Carbon 150Ohm +5%–5% ¼W
R502	ERD14TJ223	Carbon 22KOhm +5%–5% ¼W
R503	ERD14FJ220	Carbon 22Ohm +5%–5% ¼W
R504	ERD14TJ182	Carbon 1.8KOhm +5%–5% ¼W
R581	ERD14TJ560	Carbon 56Ohm +5%–5% ¼W
R601	ERD14TJ152	Carbon 1.5KOhm +5%–5% ¼W
R603	ERD14TJ473	Carbon 47KOhm +5%–5% ¼W
	CERAP & CONTROLS	
X141	EFCA4R5M2	Cerap 4.5MHZ
VR18	EVLS3AA00B53	I-F AGC
VR19	EVLS3AA00B13	R-F AGC
VR31	EVD66A25KA15	Vert. Hold
VR32	EVLS0AA00B24	Height
VR33	EVLS0AA00B52	Vert. Lineality
VR51	EVVC0AF25U14	Sound Volume
VR62	EVVC1AF2513X	Contrast
VR63	EVVC0AF25B55	Brightness
VR64	EVTS0AA00B26	Focus
	BRACKET	
	TJS869070	Earphone Socket
	TJS25640	Picture Tube Socket
108	TUC80519	Video I-F Sheeld Case
109	TUC80520	Video I-F Sheeld Board
	TUC80709	TR Heat Shink
110	TWH883440	Anode Cap with Lead

TNP81536-21S POWER CIRCUIT BOARD

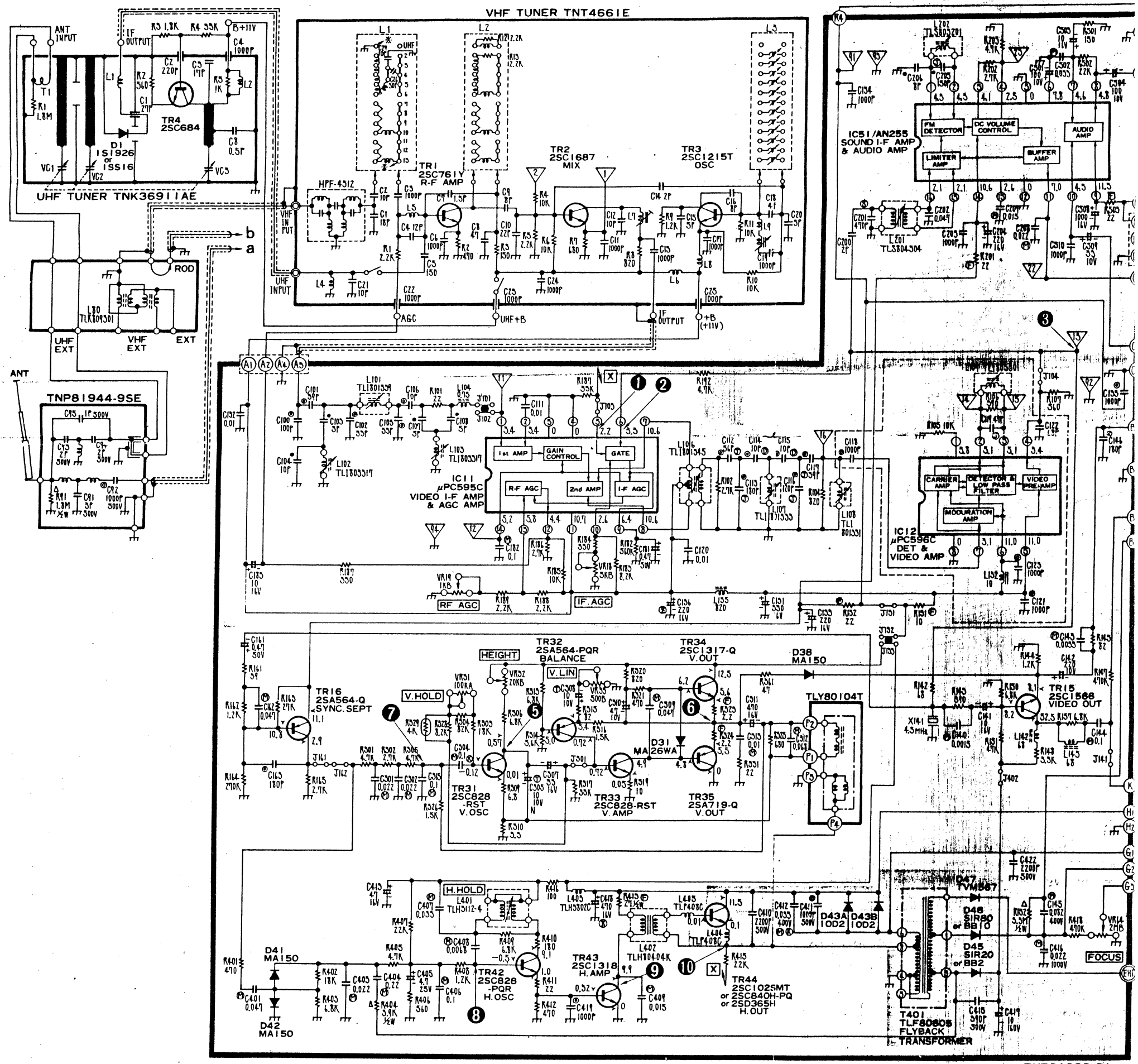
	TRANSISTORS	
TR71	2SA564A	AVR
TR73	2SD389	AVR
TR74	2SA564A	ADP
TR75	2SC828A	ADP
TR76	2SA564A	AVR & ADP
TR77	2SA564A	ACP
TR78	2SA564A	ACP
TR79	2SC1226A	ACP
	DIODES	
D71	TVS10D1	Power Rectifier
D72	TVS10D1	Power Rectifier
D73	TVS10D1	Power Rectifier
D74	TVS10D1	Power Rectifier
D75	TVSEQA01-05T	Zener
D76	MA150	AVR Start
D77	TVS10D1	Opposite Connection Protector
D78	TVS10D1	Opposite Connection Protector
	CAPACITORS	
C701	ECKD2H472PE	Carbon 4700PF +100%–0%
C702	ECKD2H472PE	Carbon 4700PF +100%–0%
C703	ECKD2H472PE	Carbon 4700PF +100%–0%
C704	ECKD2H472PE	Carbon 4700PF +100%–0%
C705	ECET35R2200S	Electrolytic 2200UF
C706	ECEA10V33L	Electrolytic 33UF
C707	ECEA10V100L	Electrolytic 100UF
C708	ECEA25V10L	Electrolytic 10UF
C721	ECQM05472MZ	Polyester 4700PF +20%–20%
C722	ECKD2H681K	Ceramic 680PF +100%–10%
C731	ECQM05103MZ	Polyester 0.01UF +20%–20%
C732	ECEA25V4R7	Electrolytic 4.7UF

F.	PARTS NO.	PARTS NAME & DESCRIPTION			
	RESISTORS				
01	ERD14TJ122	Carbon	1.2KOhm	+5%—5%	¼W
02	ERD14TJ821	Carbon	820Ohm	+5%—5%	¼W
03	ERD14TJ151	Carbon	150Ohm	+5%—5%	¼W
05	ERC12GK39T	Solid	390Ohm	+10%—10%	½W
07	ERD14TJ221	Carbon	220Ohm	+5%—5%	¼W
08	ERD14TJ153	Carbon	15KOhm	+5%—5%	¼W
11	ERM12PKR47	Resin Coated	0.47Ohm		½W
12	ERD12FJ220	Carbon	22Ohm	+5%—5%	½W
14	ERD12TJ681	Carbon	680Ohm	+5%—5%	½W
21	ERD14TJ222	Carbon	2.2KOhm	+5%—5%	¼W
22	ERD14TJ433	Carbon	43KOhm	+5%—5%	¼W
23	ERD14TJ223	Carbon	22KOhm	+5%—5%	¼W
24	ERD14TJ562	Carbon	5.6KOhm	+5%—5%	¼W
25	ERD14TJ100	Carbon	10Ohm	+5%—5%	¼W
26	ERD14TJ103	Carbon	10KOhm	+5%—5%	¼W
27	ERD12TJ201	Carbon	200Ohm	+5%—5%	½W
28	TRF2SK1R0	Non Flame	1Ohm		2W
31	ERTD2FHL332	Thermistor	3.3KOhm		2W
32	ERD14TJ332	Carbon	3.3KOhm	+5%—5%	¼W
33	ERD14TJ223	Carbon	22KOhm	+5%—5%	¼W
34	ERD14TJ123	Carbon	12KOhm	+5%—5%	¼W

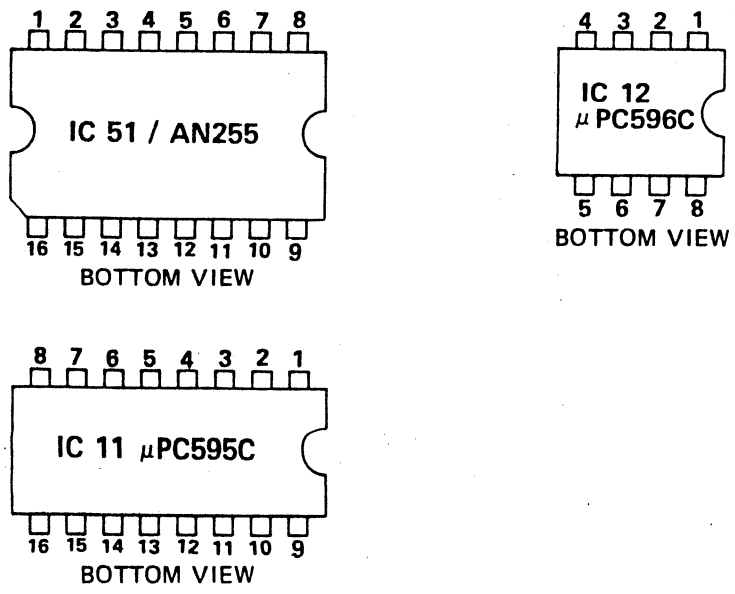
REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION			
R735	ERD14TJ682	Carbon	6.8KOhm	+5%—5%	¼W
R736	ERD14TJ103	Carbon	10KOhm	+5%—5%	¼W
R737	ERD14TJ472	Carbon	4.7KOhm	+5%—5%	¼W
R738	ERD14TJ123	Carbon	12KOhm	+5%—5%	¼W
R739	ERD14TJ102	Carbon	1KOhm	+5%—5%	¼W
R741	ERC12ZGK185	Solid	1.8MOhm	+10%—10%	½W
VR71	EVLS0AA00B23	AVR			
VR72	EVLS0AA00B14	ACP			
VR73	EVLS0AA00B53	ADP			
	FUSES				
111	XBA2F04NU100	AC 0.4A Fuse			
112	XBA2F10NU100	DC 1A Fuse			
113	XBATET6NU100	DC 1.6A Fuse			
	SOCKET & SWITCHES				
114	TJS869080	AC/DC Socket			
115	TSE80606	Pop up Switch			
116	TSE80704	Power Switch			
	BRACKET & SCREWS				
117	TUC80709	Heat Think			
	XTV3+8B	TR73, Mounting Screw			
	XSB3+10S	TR79, Mounting Screw			
	XNG3BS	TR79, Mounting Nut			
	XWA3B	TR79, Mounting Washer			

Printed in Japan
7505 6000 Ⓢ

SCHEMATIC DIAGRAM FOR MODE


VHF TUNER TNT4661E
UHF TUNER TNK3691 1AE
TNP81944-9SE
TR1 2SC761Y R-F AMP
TR2 2SC1687 MIX
TR3 2SC1215T OSC
IC11 μPC595C VIDEO I-F AMP & AGC AMP
IC51/AN255 SOUND I-F AMP & AUDIO AMP
IC12 μPC596C DET & VIDEO AMP
TR16 2SA564-Q SYNC. SEPT
TR31 2SC828 -RST V. OSC
TR32 2SA564-PQR BALANCE
TR33 2SC828-RST V. AMP
TR34 2SC1317-Q V. OUT
TR35 2SA719-Q V. OUT
TR15 2SC1566 VIDEO OUT
TR42 2SC828 -PQR H. OSC
TR43 2SC1318 H. AMP
TR44 2SC1025MT or 2SC840H-PQ or 2SD365H H. OUT
TLY80104T
T401 TLF80805 FLYBACK TRANSFORMER
TNP81829-21

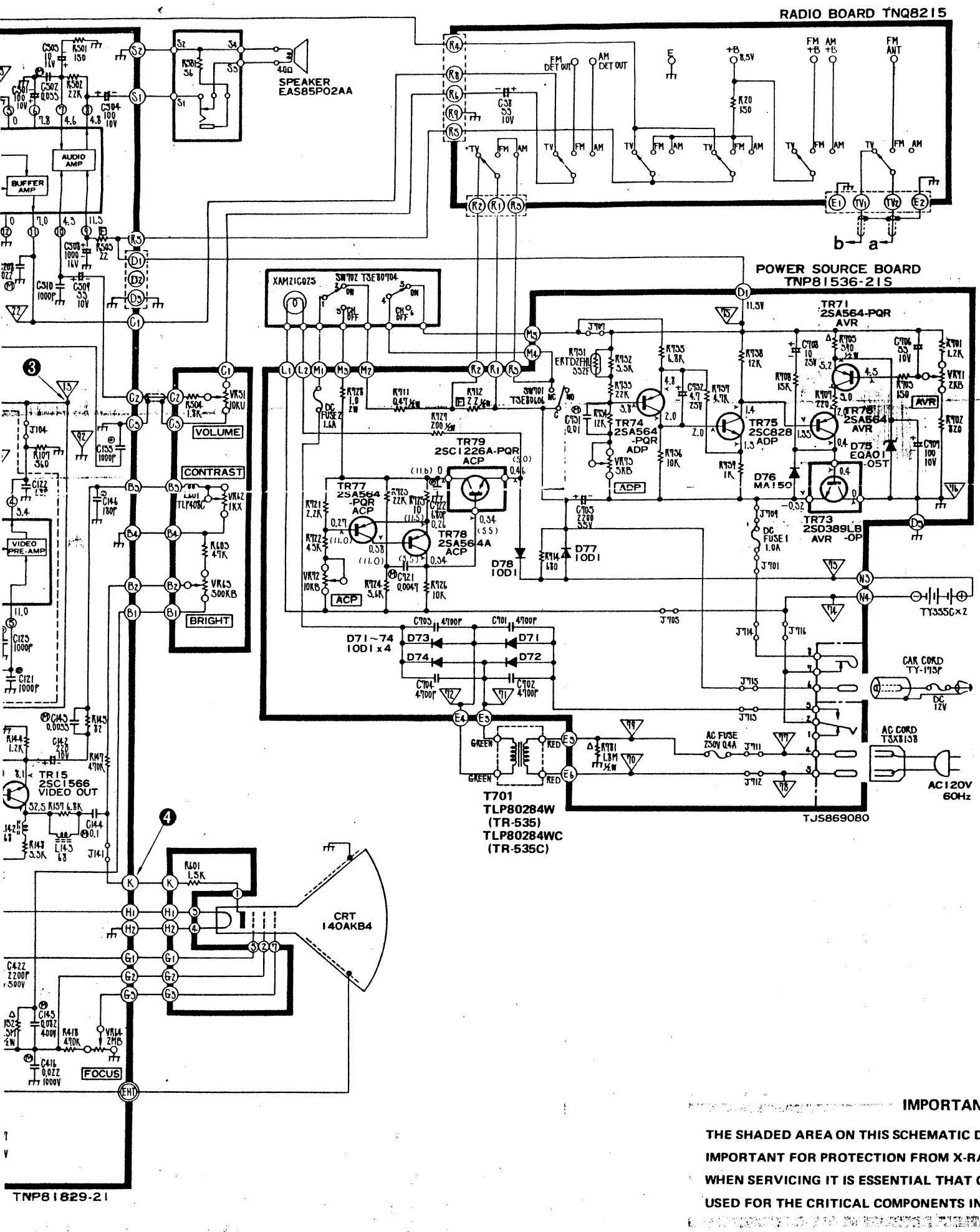
IC TERMINAL INFORMATION



TRANSISTOR BASE INFORMATION

LOCATION			
PARTS NAME	2SC717	2SC683	2SC1025MT
2SA564A 2SA719 2SC564A 2SC828A 2SC1317 2SC1318	2SC1226A	2SC1566	2SD389

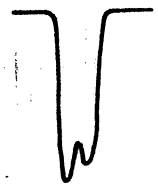
R MODELS TR-535 & TR-535C



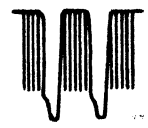
WAVEFORM PATTERNS

These waveforms were taken with normal signal.
The peak-to-peak voltage were taken with brightness and contrast controls set for maximum position.

① 23Vp-p



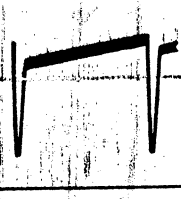
② 0.15Vp-p



③ 0.15Vp-p

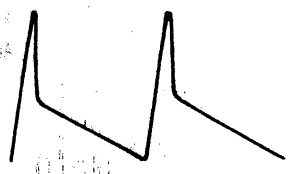
④ 40Vp-p

⑤ 0.56Vp-p



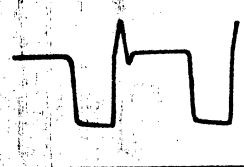
⑥ 10Vp-p

⑦ 2Vp-p

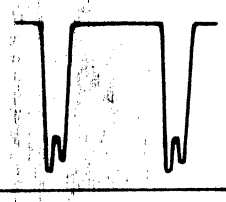


⑧ 3Vp-p

⑨ 21Vp-p



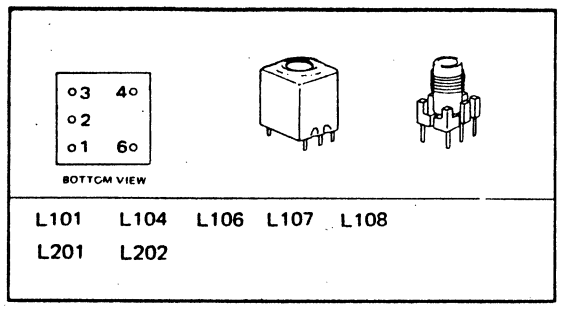
⑩ 120Vp-p



IMPORTANT SAFETY NOTICE

THE SHADED AREA ON THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION, FIRE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER'S SPECIFLED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SHADED AREAS ON THE SCHEMATIC.

TRANSFORMER TERMINATION INFORMATION

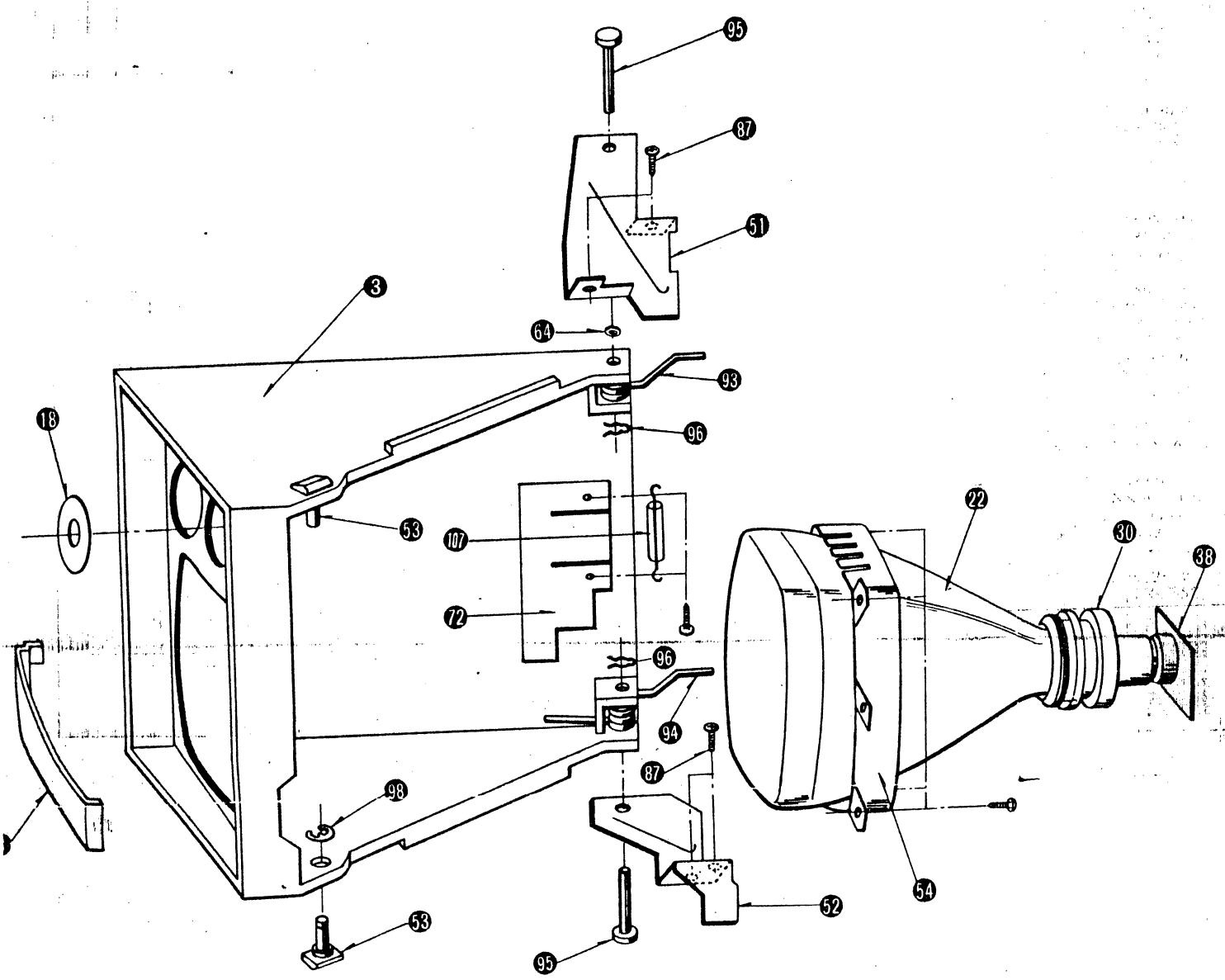


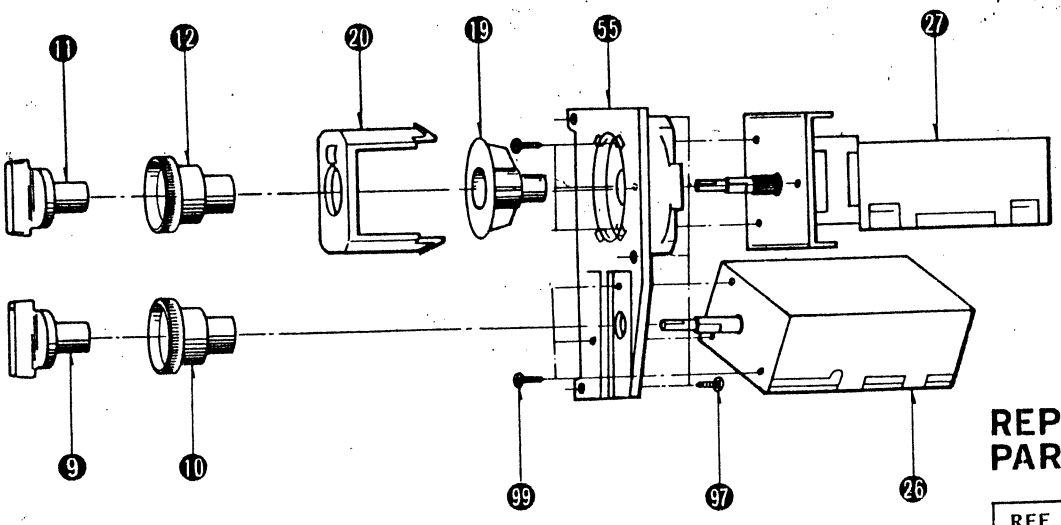
L101 L104 L106 L107 L108
L201 L202

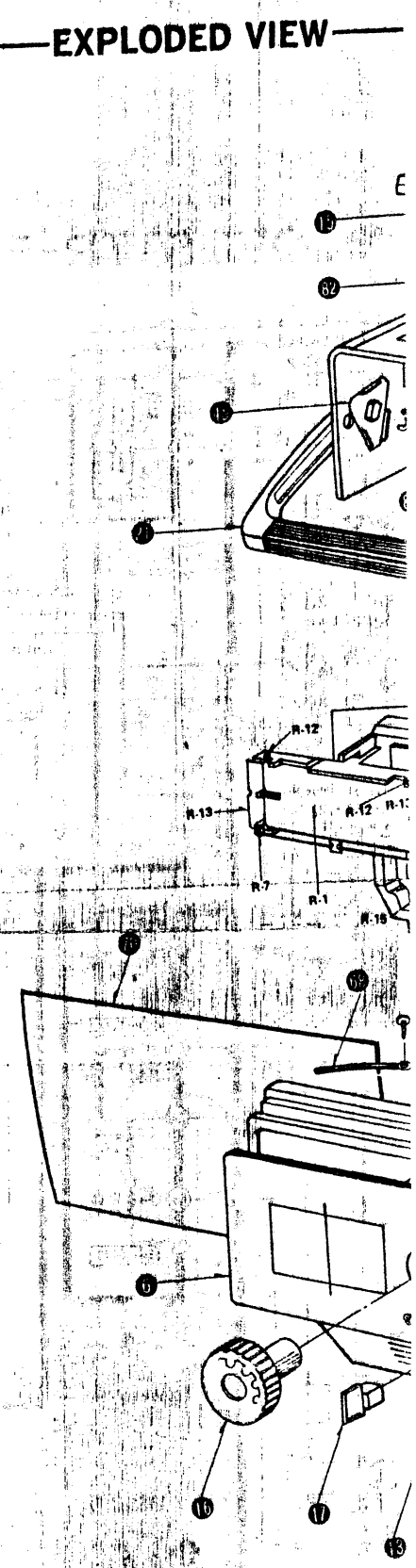
NOTE

1. RESISTOR
   All resistors are carbon 1/4W resistor, unless otherwise noted the following marks.
   Unit of resistance is OHM (Ω). (K=1,000, M=1,000,000)
   △ : Solid resistor ● : Metal oxide resistor
   □ : Wire wound resistor : Thermistor
   : Fuse resistor
2. CAPACITOR
   All capacitors are ceramic 50V capacitor, unless otherwise noted the following marks.
   Unit of capacitance is μF, unless otherwise noted.
   Ⓜ : Polyester capacitor Ⓢ : Polystylene capacitor
   : Electrolytic capacitor
3. COIL
   Unit of inductance is μH.
4. TEST POINT
   : Test point position.
5. VOLTAGE MEASUREMENT
   Voltage is measured by a volt ohm meter with DC 20K OHM/V receiving normal signal, when all controls are set to the maximum position.
   The voltage in parenthesis is measured when the power switch is set to "off" position.
6. Number in red circle indicates waveform number.
7. When arrow mark (↗) is found, connection is easily found along with the direction of an arrow.
8. When schematic diagram of a board is described in more than two places, they are encircled with dotted line (— - —).
9. This schematic diagram is the latest at the time of printing and subject to change without notice.
   (May, 1975)

EXPLODED VIEW





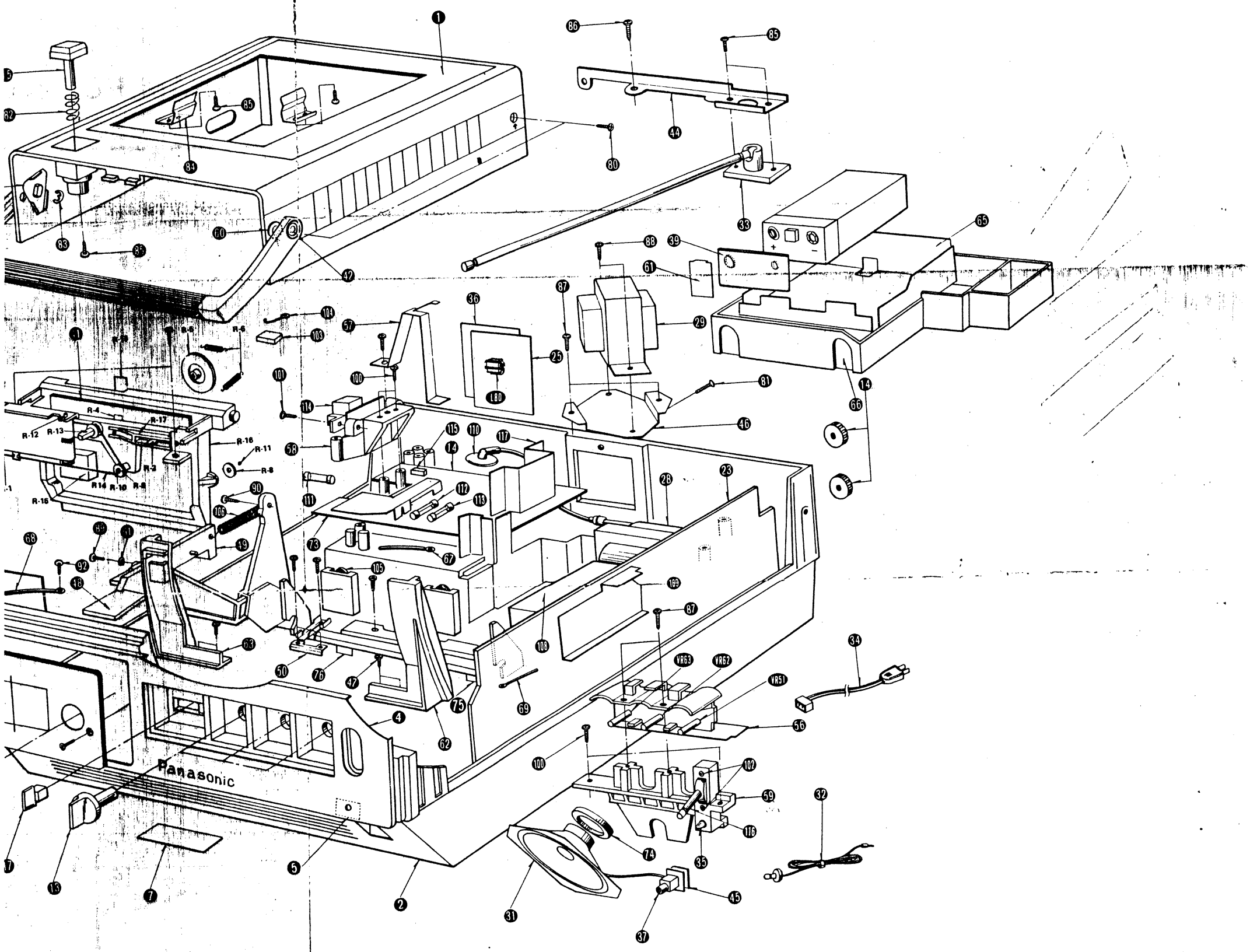


Impor
Components identified by sha
safety. When replacing any of
specified parts.

REPLACEMENT PARTS LIST

REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION
	CABINET PARTS	
1	TKY802301	Upper Cabinet
2	TKY802101-1H (TR-535)	Under Cabinet Complete
2	TKY802101-2H (TR-535C)	Under Cabinet Complete
3	TKY802201-1H	Escutcheon Complete
4	TKP8052751	Aluminum Panel
5	TKK39317	Lamp Indicator Plate
6	TKP8011591-1	Radio Transparent Plate
7	TBM82628-1 (TR-535)	Model Plate
7	TBM82643 (TR-535C)	Model Plate
8	TKG809638	Front Glass
9	TBX80765	VHF Channel Knob
10	TBX80758-1	VHF Fine Tuning
11	TBX80759	UHF Channel Knob
12	TBX80757-1	UHF Fine Tuning
13	TBX80581-1	Small Knob
14	TBX80583-1	Vert./Horiz. Knob
15	TKK809810	Pop-up Botton
16	TBX80582	Radio Tuning Dial Knob
17	TBX80557-3	Radio-TV Selector Knob
18	TKP8010961	VHF Indicator Plate
19	TKK800357-4	UHF Indicator Plate
20	TKK800356	UHF Indicator Transparent Plate
21	TKK800226	Handle Complete
22	140AKB4	Picture Tube
23	TNP81829-21	Main Circuit Board Complete
24	TNP81536-21	Power Circuit Board Complete
25	TNP81944-1H	U/V Signal Separator Circuit Board Complete
26	TNT4661E	VHF Tuner
27	TNK36911AE	UHF Tuner
28	TLF80805	Flyback Transformer
29	TLP80284W (TR-535)	Power Transformer
29	TLP80284WC (TR-535C)	Power Transformer

REF. NO.	PARTS NO.
30	TLY80104T
31	EAS85P02AA
32	EAE3YDAA
33	TSA141-1S
34	TSX8138
35	XAM21C025
36	TJB80242S
37	TJS869070
38	TJS25640
L80	TLR809316
39	TJB80906-1
	TPC803271 (TR-535)
	TPC803321 (TR-535C)
	XAPD01535
	TPE84023
	TQB83494 (TR-535)
	TQB83508 (TR-535C)
	TQB82494 (TR-535)
	TQB82508 (TR-535C)
	TQB82500
	TQD8112069-1 (TR-535)
	TQD8111266 (TR-535C)
	TQB32894P
41	TNQ8215
	BRACKETS
42	TKK809240
43	TKZ800925Z
44	TUW80977Z
45	TMK81252



Important Safety Notice

ed by shading have special characterisics important for
ng any of these components use only manufacturer's

TS NO.	PARTS NAME & DESCRIPTION
80104T	Deflection Yoke
85P02AA	Speaker
3YDAA	Earphone
141-1S	Rod Antenna
8138	Power Cord
121C025	Pilot Lamp
30242S	Antenna Terminal Board Complete
69070	Earphone Socket
15640	Picture Tube Socket
809316	Balun Coil
30906-1	Battery Terminal Complete
803271	Outer Carton
TR-535)	
803321	Outer Carton
TR-535C)	
D01535	Filler Complete
84023	Set Cover
83494	Fan Bag
TR-535)	
83508	Fan Bag
TR-535C)	
82494	Instruction Book
TR-535)	
82508	Instruction Book
TR-535C)	
82500	Instruction Sheet
D8112069-8	Fact Tag
(TR-535)	
D8111266	Fact Tag
(TR-535C)	
332894P	Battery Instruction Book
Q821-	FM/AM Radio Complete

TS	
K809240	Handle Mounting Pin
Z800925Z	Handle Mounting Bracket
	Antenna Mounting Bracket

REF. NO.	PART NO.	PARTS NAME & DESCRIPTION
46	TUX80284C	Power Transformer Mounting Bracket
47	TKX804101	Lock Shaft
48	TKX804201	Lock Shaft Arm
49	TKX804301	Lock Shaft Arm Mounting Bracket
50	TKZ809916	Lock Shaft Holder
51	TKZ809914C	Pop-up Block Mounting Bracket. (A)
52	TKZ809915C	Pop-up Block Mounting Bracket. (B)
53	TKX804901	Lock Pin
54	TKW80961-4 (TR-535)	Picture Tube Band
54	TUW80961-4 (TR-535C)	Picture Tube Band
55	TKX803701	Tuner Mounting Bracket
56	TKX804601	Volume Mounting Bracket
57	TES8123	Pop-up Switch Spring
58	TKX804401	Power Cord Socket Holder
59	TKX804501	Speaker Stopper
60	TKK809239	Handle Bushing
61	TJC80310	Battery Terminal Plate
62	TKX803901	Picture Tube Variare Holder (A)
63	TKX804001	Picture Tube Variare Holder (B)
64	TKX804801	Shaft Cover
65	TMK81941-1	Battery Spacer
66	TMK81253	Battery Lead Mounting Bracket
67	TMK81936	Power Circuit Board Lead Mounting Bracket
68	TMK81937	Radio Lead Mounting Bracket
69	TMK81939	Main Circuit Board Lead Mounting Bracket
70	TMK81934	Picture Tube Barrier
72	TMK82142-1	Escutcheon Lead Spacer
73	TMK81940	Power Circuit Board Spacer
74	TMM81556	Speaker Mounting Rubber
75	TMM81562	Cushion Rubber (A)
76	TMM81563	Cushion Rubber (B)

SCREWS, WASHERS & SPRING

80	XTB4+15AFC	Upper Cabinet Mounting Screw
81	XSS3+20FNKS	Antenna Terminal Mounting Screw
82	TES8215	Pop-up Botton Spring
83	TES8130	Handle "U" Ring

REF. NO.	PART NO.	PARTS NAME & DESCRIPTION
85	XTB4+12A	Antenna,Pop-up Button,Pop-up Block Stopper Mounting Screw
86	XSB3+8S	Antenna Terminal Bracket Mounting Screw
87	XTB4+15A	Power Circuit Board, Volume Block Speaker Pop-up Block Mounting Screw
88	XTB4+8B	Power Transformer Mounting Screw
89	XTB4+12A	Lock Shaft Arm Mounting Screw
90	XTV3+6A	Lock Shaft Spring Mounting Screw
91	XWG4	Lock Shaft Arm Mounting Washer
92	XTB4+15A	Radio Mounting Screw
93	TES8217	Pop-up Spring (Right)
94	TES8220	Pop-up Spring (Left)
95	TEL8116	Pop-up Block Mounting Shaft
96	TES8127	Pop-up Block Holding Pin
97	XTB4+15A	Tuner Block Mounting Screw
98	TES8126	E-Ring
99	XTV3+10B	Tuner Mounting Screw
100	XTB3+12A	Speaker, Pop-up Block Mounting Screw
101	XTB4+12A	Power Cord Socet Mounting Screw
102	XSB3+6S	Power Switch Mounting Screw
103	TJT8504M	4P Coupler
	TJT487	1P Coupler
	TJT885	1P Chip
	TJT8503M	3P Coupler
	TJT8505M	5P Coupler
	TJT8707M	Coupler Terminal (Slender)
104	TJT8708M	Coupler Terminal (Thick)
105	TES8218	Battery Terminal Spring
106	TES8216	Lock Shaft Spring
107	TES8304	Lead Wire Mounting Spring

RESISTOR

R91	ERC12ZGK185	Ceramic 3PF +0.25PF−0.25PF 500V

CAPACITORS

C91	ECCD2H030C	Solid 1.8MOhm +10%−10% ½W
C92	ECCD2H102MB	Ceramic 1000PF +20%−20% 500V
C93	ECCD2H020C	Ceramic 2PF +0.25PF−0.25PF 500V
C94	ECCD2H020C	Ceramic 2PF +0.25PF−0.25PF 500V
C95	ECCD2H010C	Ceramic 1PF +0.25PF−0.25PF 500V